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Ardaseer Cursetjee became the first Indian to be appointed a Fellow of the Royal Society. The year 2011 marks the 170th anniversary of this achievement by this young architect of a young India.

Ardaseer Cursetjee
The First Indian Fellow of the Royal Society

A *Midsummer Night's Dream* was a fantasy of William Shakespeare depicting a 'supernatural night' full of fairies and facetious amusement, but for the pedestrians and peddlers of old Mumbai, the night of 10 March 1834 was somewhat more alluring, leaseholding their memory forever. What they saw was literally the 'garden of paradise' and a mansion, all lit in coloured lights—both beyond the imaginative domains of a maudlin Indian of the nineteenth century.

Some noble elites knew it to be the house of the Wadia family, the famous ship-builders and architects, but only a few bothered to know who lived there in that exuberant manner. Nor did they know that the Governor of Bombay was visiting that house on that day to see what the young gentleman there was doing. Frankly, it was the first incident of gas lighting in the city of the then Bombay.

Mazagaon was entering into the scientific history of India, which soon became the "techno-valley" of British India witnessing many freshly served technological innovations. The Mazagaon people saw the machine that could stitche by itself – the sewing machine – within a few years it was patented by Elias Howe in 1846. They were also spared from sitting rather motionless before the artist for hours enabling him to sketch a portrait, they could easily get it through the new technique of photography – another marvel of modern science.

The children played around the fountain that was placed in the public park working under the power of a steam engine and a machine that carried water from rivers to their barren lands. Slowly they became familiar with the name of that wizard who was eager to present every thing new to his country and countrymen – Ardaseer Cursetjee (Wadia) – the first Indian fellow of the Royal Society of London, a position he gained at the age of 33, in 1841, much before Ramanujan, J.C. Bose or C.V. Raman. Rather less emphatically, 2011 marks the 170th anniversary of this achievement by this young architect of a young India.

A Born Builder – in Time!

Cursetjee was a scion of the Wadia family, descendent of Lowji Nusservanji who was brought from the Surat dockyard by the British to build a new dock in Bombay. It happened in 1736 and for the next hundred and fifty years the post of "Master (Ship) Builder" remained with the Wadia family.

The commercial ships of the British East India Company were going on their full steam of profitability and the spreading trade increased demand for more big and sturdy ships. However, in 1772, the East India Company was forbidden from building any new ships in England due to scarcity of timber and illegal increase of tonnage. But, the company could build them using dockyards in its colonies elsewhere. This turned to be a fortune for the shipbuilders of Bombay who experimented on Indian Teak-wood replacing the Oak, a random choice that quickly evolved into a better alternative.

Moreover, the workmanship of the Bombay Dockyard was excellent and less expensive compared to those all over the Europe. The Bombay Dockyard got continuous contracts to build ships for the Company, bringing great prestige to the

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CURSETJEE'S CERTIFICATE OF NOMINATION TO THE ROYAL SOCIETY

Ardaseer Cursetjee Esquire Ship Builder of Bombay lately in England having undertaken the journey to this country at his own expense in order to prepare himself in the knowledge of the Steam Engine as applicable to Navigation and to acquaint himself with the arts and manufactures of Europe with the view of improving his own country and his countrymen, a Gentleman well versed in the theory and practice of Naval Architecture and devoted to scientific pursuits, having introduced Lighting by Gas into Bombay where he perfected a small Gas establishment aided exclusively by Native workmen; having also at his own charge built a Vessel of sixty tons to which he adapted a Steam Engine sent out from this country, and manufactured and fitted every other part of the machinery and navigated the vessel entirely with native workmen and engine men, chiefly instructed and trained by himself; and having otherwise promoted science and the useful arts in his own country to which he has just returned, having while in England obtained the appointment of Principal Inspector of Steam Machinery to the East India Company being desirous of becoming a fellow of the Royal Society ..... And we beg to recommend him from his peculiar situation, and lie proofs he has given of his desire to extend natural knowledge in India. Dated this twenty seventh day of March 1841.

Wadia, family. The *HMS Cornwallis* launched by the Wadia masters was the main battle-ship in the British-American War of 1812 and later the flagship of the British Fleet in China during the 'Opium Wars.' The *HMS Trincomalee*, another well-equipped warship from the Bombay Dockyard served the British well during the Crimean War (1852-1857) and was in service for more than hundred years.

In the meantime, a technological revolution was sweeping through the dockyards all over the world, which the Wadias failed to address properly. The Steam Engine Technology offered safe travel through canals and along rocky coasts with more speed and little wreckage. The Wadias couldn't build steam ships and so their long standing reputation as Master builders was vanishing.

It was during that time of creeping defamation, Ardaseer Cursetjee spent his childhood in the Wadia mansion at Mazagoon. He was born on 6 October 1808 and the years that followed were a period of political turmoil. Though the trading monopoly of the East India Company was lost in 1813, the last opposition to the British was lost as the Marathas were mercilessly crushed in 1818. The Marathas were equally powerful on sea but evidently they were not aware of the novel techno-powers of the British Navy. The British had learned steam-technology from the Americans early in the 1800s, when the American engineer Robert Fulton made the first inland steamboat and John Cox Stevens, another American taking it to the sea.

On the English side, steam navigation was started in 1812 through the efforts of Henry Ball building a steam-ship by the name *Comet* and the British had their first sea-going steamer *Rob Roy* in 1815, a 30 horsepower ship, making commercial trips between Glasgow and Belfast. The enthusiasm created by it was reflected in the commissioning of the first steamer into the British Navy in the year 1819. But for the Emperors of India, a steam-ship was none other than an expensive toy. Ghazi Haiderud-Din, the Nawab of Oudh bought a steamship that could speed up 7-8 miles per hour, not as a war-ship, but as a token of his monumental money-power! The Wadias were trying on steam ships but to their shame, the Nawab bought it from the Culcutta Dockyard. When the first Anglo-Burmese War broke out in 1824, the British government purchased another steamer from the Culcutta-dockyard, named *Diana* for a sum of Rs. 80000. The Bombay Dockyard was thus embodying a financial tarnishing also and at that time young Cursetjee was there in the Bombay Dockyard where he joined to help his father in 1822, at the age of 14.

It was so natural that Cursetjee was more interested in the design and construction of steam engines and steamers, an aspiration he maintained right from the very first days of his formal training in the Bombay Dockyard. After mastering the basics of ship building there he was put in charge of the supplementary shipyard at Mazagaon in 1828. For his great fortune, in the following year, a pair of 80 horsepower engines was brought from London to Bombay for fitting into a ship built by the Wadias there. This gave Cursetjee the much-awaited opportunity to study a steam engine in minute details and his astute observations were so intense that he could even make a working replica of it! The ship finally came out with the name *Hugh Lindsay*, as an honour to the Company's chairman. The authorities were happy about the novel builder's fascinations towards steam engines and they transferred him to the charge of Captain F. McGillvray who was the Mint engineer of the Bombay Dockyard.

He died there, at the age of 69, on 16 November 1877, without any national honours. Historians also were unkind to Cursetjee. Even in the two volumes of *History of Parsis* published in 1884 by D.F. Karaka, Cursetjee's name was omitted.

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The guidance soon resulted in a miraculous invention – Cursetjee constructed a pumping machine that could work using steam power. He placed the machine in the front of his house, getting a fountain operated by it. This he did as a mere sport, but historically it was the first steam-driven pumping machine in India! His father, Rustomjee was most impressed by it and agreed to purchase a steam engine from England as a gift for Cursejee. It was a 10 horsepower engine that came which Cursetjee got fitted into a vessel that he named *Indus.* To his great satisfaction, *Indus* proved to be one of the best ocean steamers and was purchased by the British government. Thus the Wadias were once again on to the throne of the master ship-builders.

"The Empire's Show Boy"

To the British, Cursetjee was a good example of the most desirable outcome of English education; an icon of how much western education could uplift an Indian native. So, they did everything possible to make him popular through their patronage and official hegemony across the world. In October 1833, the Superintendent of the Marine Captain John Crawford recommended him as the Assistant Builder at Mazagaon.

For Cursetjee, however, these patronizing attitudes turned out to be true reflections of his own attitude towards his fellow-workmen. He used the same words and idioms used by the company referring to him, while writing letters to the company about the natives under him. When the Elphinstone Institution was started, Cursetjee was invited to teach 'Practical Mechanics' as there was none with that much practical experience.

In 1837, another recognition came—he was elected as the non-resident member of the Royal Asiatic Society of England. But it seems Cursetjee never wanted to be an armchair academician or architect, his ambition was to "perfect himself, as much as possible, in the construction and repair of marine steam engines and instructing his countrymen in

Cursetjee's Diary

Cursetjee was in the habit of recording everything that happened in his everyday life and the memoirs of his journey and stay in England were publised in 1840 under the title – *Diary of an Overland Journey from Bombay to England and of a Year's Residence in Great Britain, London.*

The diary holds some interesting anecdotal records revealing the very traditional side of him. Since the Parsis were ordained to take food cooked by Parsis only, Cursetjee took along servants from his community, wherever he went. Once he refused to talk to a Parsi young man in London, who was not following the custom of wearing a 'cap'. And he found the London streets to be untidy compared to those of Bombay (in those times)!



A commemorative stamp issued by the Indian Postal Service in 1969

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that useful art." So, he wrote a letter to the government seeking permission to spend a year in England, which was sanctioned in 1838 with passage money of Rs. 600 to travel by the Government Steamer – S.S. Berenice. He couldn't travel that year due to sudden illness and so began the journey on 13 September 1839 now paying Rs. 1000 from his own pocket.

Cursetjee In Records

The complete life-sketch of Ardaseer Cursetjee can be found in the book written by R.A. Wadia, published in 1955, under the name *The Bombay Dockyard and the Wadia Master-Builders*. The book got a second edition in 1957 and a reprint in 1983. Page 340 of the book quotes a statement made by Prof. A.V. Hill, secretary of the Royal Society of London, announcing Cursetjee's selection as FRS, being the great distinction achieved by an Indian. This was when Prof. Hill held a special meeting of the Royal Society at the 31st session of the Indian Science Congress at Delhi on 3 January 1944 where he obtained the signatures of some of the fellows of the Royal Society. This is recorded in the proceedings of the 31st Indian Science Congress.

While in England, he was introduced to the Chairman and Secretary of the East India Company and to many eminent personalities. He was an invited guest to the marriage of Queen Victoria on 10 February 1840 in London and was officially presented to the Queen at a Levee on 1 July 1840.

To the Royal Society

On 24 March 1840, Cursetjee was officially elected as an Associate of the Institution of Civil Engineers in London whose meetings he attended during his stay in England. There he would address engineers on the engines of the steam-tug *Alice*. He also discussed drawings of engines on board the steamboat *Staadt Frankfort*. These actions gained him much appreciation. He got a testimonial from James Walker, the President of the Institution of Civil Engineers, to nominate him to the Royal Society. By the time, the post of 'Chief Engineer and Inspector of Machinery' at the steamer factory in Bombay was announced to which Cursetjee applied with all the favourable testimonials available.

His last request to the company was to grant him permission to take 'a few diagrams of steam engines and a few small tools' with him, which was granted. He left England in November 1840 and reached Bombay by the beginning of 1841 and joined the new job in April of the same year. On 27 May 1841, he was elected as a Fellow of the Royal Society and in the documents he was classified as "a distinguished engineer" and "one who is attached to science, and anxious to promote its progress".

In September 1851, Cursetjee made another trip to England and even during this time his great hobby of introducing novelties to his homeland continued. He also visited America and selected various woodcutting machines for sending to Bombay. He returned to Bombay in 1852 and retired on 1 August 1857.

No Garlands From Own Country…Still …

In the Bombay Steamer Factory, Cursetjee was the first Indian to be placed over one hundred European engineers and Indian workers but he showed the same kindness to everybody irrespective of their colour and creed. However, his path was not filled with roses. The *Bombay Times*, the native daily was one among the many that criticized his appointment. It wrote: *"We doubt the competency of a native, however able or educated to take charge of such an establishment as the Bombay Steamer Factory with a body of Englishmen to be directed, superintended and controlled…."*

Cursetjee did not comment but only tried to augment his workforce through rigorous training. He remained a favourite for all those placed under him and above him, showering the same natural kindness to all of them. But for a majority of his contemporaries, it was too hard to be impressed by his FRS-recognition. Many could not assimilate his colonial connections too. This might have been one among many reasons that prompted him to leave India and settle down at Richmond, during his retirement life.

He died there, at the age of 69, on 16 November 1877, without any national honours. Historians also were unkind to Cursejee. Even in the two volume *History of Parsis* published in 1884 by D.F. Karaka, Cursetjee's name was omitted. There were 17 pages describing the Wadia Family as ship-builders but not even a single line about Cursetjee. Even the commemorative stamp issued by the Indian Postal Service in 1969 could only be a consolation, belated and insolent.

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